



# Technical Data Sheet

## XP61

### **PRODUCT DESCRIPTION:**

XP 61 is an advanced high emissivity, thin film, spray applied ceramic coating specifically formulated to provide protection of both carbon and stainless-steel boiler tubing.

The coating is a high solids system which can be applied to a dry film thickness of 6 to 20 mils (150 to 500 microns) and has no VOC (Volatile Organic Compound) content.

XP61 can be formulated to address specific application needs such as corrosion and erosion resistance, slagging and fouling mitigation and specific thermal management requirements.

XP 61 bonds well to properly prepared carbon steel or stainless-steel substrates. Working properties of the coating exhibit an extended shelf of up to one year.

Upon curing XP 61 becomes a durable ceramic coating that will provide protection to boiler and furnace tubing and other steel substrates to 1,832° F (1000° C) and will withstand thermal cyclic conditions to 2,100° F (1150° C)

XP 61 may also be applied as a thermal spray sealer to prevent coating permeation in high temperature environments.

### **PHYSICAL PROPERTIES**

Colors	Green
Finish	Smooth
Maximum service temperature (substrate)	1,832° F (1000° C)
Bond Strength	2,400 psi
Tensile Strength	3,350- psi

Viscosity	17.55 (cSt)
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Note: Physical properties were determined on specimens prepared under laboratory conditions using applicable ASTM procedures. Actual field conditions may vary and yield different results; therefore data is subject to reasonable deviation

## CHARACTERISTICS

- Resistant to 1832° F (1000° C)
- Resistant to severe cyclic conditions
- Corrosion/Erosion resistant
- Non insulating
- Reduces slagging and fouling
- Resist gases, oils, solvents and most acids
- Non-toxic and odorless
- Adheres to carbon steel, stainless steel, refractory and other organic surfaces
- Good mechanical bonding

## INDUSTRIES

- Power Plants
- Refineries
- Chemical Facilities
- Cement Plants
- Pulp and Paper
- Steel Processing
- Waste to Energy Plants

## USES

- Boiler water wall tubes
- Superheater and reheater tubes
- Nose arch and slope tubes
- Wall blowers
- Stacks
- Kilns
- High heat ducts and piping
- Headers
- Economizer tubes

## SPECIFICATION DATA

Components	Single
Dry time between coats @ 50% R.H., 70° f	1 hour
Volume solids	88%

Theoretical coverage @ 1 mil. D.F.T.	600 sq.ft./gal.
Thinning liquid	None
Metal temperature during application	50° F – 150° F (10° C - 66° C)
Weight per gallon	14 lb
Storage temperature	33° - 100° F (0.5° - 38° C)
Shelf life (before mixing)	1 year

## **SURFACE PREPARATION**

Surfaces to be coated must be dry and free of all chlorides, weld splatter, oil, dirt, grease, liquor and all other contaminants. Round off all rough welds and sharp edges. Abrasive blast to achieve a NACE 1/ SSPC-SP5 (white blast) specification. Garnet or other hard sharp materials are recommended for abrasive blasting. A 3 mil (75um surface profile is recommended.

## **APPLICATION INSTRUCTIONS**

Surface temperature must be a minimum of 5° F (3° C) above the dew point. Do not apply to steel temperatures below 50° F (10° C).

\*Do not exceed dry film thickness recommendations.

XP61 is normally sprayed but if applied by brush mechanically mix container every 5 minutes during application to assure proper particle suspension.

**WARNING!** Do not thin XP 61 with any thinner as poor film characteristics may occur.

Application to hot surfaces (+200° F, 93° C) tends to promote dry spray and may cause blistering to occur. XP 61 normally dries by ambient air drying. If the temperature is below 70° F (93° C) and the humidity is high slower drying will occur. Low temperature oven or heat drying may be used to accelerate the drying time. Do not exceed 200° F (93°C) during accelerated drying.

XP 61 should be applied in minimum of 3 (three) coats of 3 mils (75 microns) per coat. Each coat must completely dry to the touch before the second coat is applied. If heat cure is used to accelerate drying assure that the temperature does not exceed 200° F (93° C) If thicker coating is required allow each coat to completely dry to the touch before subsequent coats are applied. Moderate heating can be applied between coats if required.

## **CURING REQUIREMENTS**

After application allow the coating to air dry above 50 deg. f. or 10 deg. C for minimum 24 hours.

Cure for 1 hour at 180 deg. F. to 200 deg. F.	(82C to 93C)
Cure for 1 hour at 300 deg. F. to 350 deg. F.	(149C to 177C)
Cure for 1 hour at 425 deg. F. to 460 deg. F.	(218C to 238C)

## EQUIPMENT

Conventional or airless spray is recommended. Proper SSPC coating application procedures should be followed when applying XP61. Contact Fireside Coatings for proper surface preparation and application specifications.

## MIXING

Use mechanical agitation for initial mixing and **during application**. Mix materials until smooth and uniform in consistency. While spraying, adjust mixing speed to allow for material suspension without cavitations. It is recommended to screen the material before application.

## CLEAN-UP

All equipment should be cleaned with water before the coating dries.

## CAUTION

Consult Material Safety Data Sheets and container label caution statements for any hazards in handling this material.

